

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

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Notice of Inquiry)	
Service Quality Standards in PBR Filings)	D.T.E. 99-84
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**WMECO'S REPORT ON SERVICE QUALITY DATA COLLECTION AND
BENCHMARKING**

I. Introduction

On June 29, 2001, the Department of Telecommunications and Energy (the "Department") issued an Order in Notice of Inquiry on Service Quality Standards, D.T.E. 99-84 (the "Order") which included a directive for a report on service quality data collection and benchmarking. Specifically, the Department directed each gas and electric distribution company to provide a written report to the Department no later than December 29, 2002. The report is to include the following information: (1) details on individual data collection efforts; (2) identification of what nationwide, regionwide, and statewide performance data is potentially available for a comprehensive database; and (3) an assessment of the feasibility of establishing a co-operative approach to comparative benchmarking, under which all gas and electric companies would develop jointly a data-gathering/data-sharing consortium that would compile comparative data. Western Massachusetts Electric Company ("WMECO" or the "Company") hereby submits the following information, including the report of Navigant Consulting, Inc. ("Navigant"), in response to the Department's directive.

II. WMECO's Data Collection Efforts

As listed in WMECO's service quality plan ("SQ Plan"), which was approved by the Department on December 17, 2001, WMECO submits data on eight performance measures and 11 reporting requirements by March 1 of each year. For the purposes of this report, WMECO will be providing information on the performance measures.

A. Safety and Reliability

1. System Average Interruption Duration Index

System Average Interruption Duration Index ("SAIDI") is a measure that determines the length of time the average customer is without electric service during a prescribed period of time. For the purpose of calculating SAIDI, the following events and occurrences are excluded: (1) customer equipment outages; (2) planned outages; (3) Excludable Major Events, as defined by the Department (*see* June 29 Order, Attachment 1, p. 2); and (4) momentary outages less than one minute in duration. The following assumptions and criteria are also to be used for calculating SAIDI: (a) the beginning of an outage is recorded at the first report of no power; (b) the end of an outage is recorded at the point that power to customers is restored; (c) only outages affecting a primary distribution circuit are included unless the outage was caused by an overload, in which case all outages are included; (d) where only part of a circuit experiences an outage, the number of customers affected is the actual customer counts from our customer service system assigned to the specific device in trouble; (e) when power is partially restored, the number of customers restored is estimated based on the system analysis of the trouble (*e.g.*, restoring two phases of a three-phase system restores two-thirds of the customers);

and (f) when customers lose power as a result of the process of restoring power (such as from switching operations and fault isolation), the duration of these additional outages is included.

WMECO uses the following process to capture data for this measure. The customer call to the Customer Service Center electronically initiates the interruption. The date and time of the customer call defines the start time of the interruption. For multiple affected customers, the date and time of the earliest call is used as the start time.

A crew is dispatched, repairs the trouble, and notifies the dispatch center of the date and time of the completion of the repair. This information is posted to the interruption.

As part of the interruption close-out process, attributes are assigned to identify the nature of the problem. These include: (1) affected customers (the interruption reporting system is updated monthly from the customer service system with customers by device. The dispatcher can override this count if all of the customers associated to the device were not affected); (2) cause of the interruption; (3) weather conditions; (4) type of equipment; (5) equipment involved; (6) voltage of the equipment; (7) conductor type; and (8) origin of the interruption.

Interruptions are reviewed weekly, or more often as required, to identify if a day qualifies as a major storm exclusion per the Department's rules of 15% of the Company's customers affected on a given day. If a storm day can be declared, the storm duration is defined as the contiguous days to the storm day(s) where at least 1% of the Company's customers are affected. Individual interruptions would be flagged as associated with a

major storm. States of Emergency as declared by the Governor would be handled in a similar manner.

Reporting is generated monthly for monthly, quarterly, and year-to-date evaluations of reliability. Each interruption is evaluated based on its set of attributes as follows:

- ?? Durations are calculated based on the start and completion dates and times.
- ?? Per the Department's rules, certain interruptions are excluded from this reporting:
 - Interruptions associated with a major storm/declared state of emergency
 - Interruptions caused by customer equipment
 - Interruptions involving services and/or secondary
 - Interruptions involving transformers (Excludes the cause of overload)
 - Interruptions caused by non company owned facilities.
 - Interruptions that were planned
- ?? The customers affected and customer minutes on the individual interruptions are summed for the reporting period - month, quarter, and year-to-date.
- ?? Reliability Index calculations are performed using the average customers served for the reporting period. These customer counts are updated monthly from the customer service system.

2. System Average Interruption Frequency Index

System Average Interruption Frequency Index ("SAIFI") is a measure that determines the number of times (frequency) the average customer experiences a loss of electric service during a prescribed period of time. For the purpose of calculating SAIFI, the following events and occurrences are excluded: (1) customer equipment outages; (2) planned outages; (3) Excludable Major Events, as defined by the Department (*see* June 29 Order, Attachment 1, p. 2); and (4) momentary outages less than one minute in

duration. The following assumptions and criteria are also to be used for calculating SAIFI: (a) the beginning of an outage is recorded at the first report of no power; (b) the end of an outage is recorded at the point that power to customers is restored; (c) only outages affecting a primary distribution circuit are included unless the outage was caused by an overload, in which case all outages are included; (d) where only part of a circuit experiences an outage, the number of customers affected is the actual customer counts from our customer service system assigned to the specific device in trouble; (e) when power is partially restored, the number of customers restored is estimated based on the system analysis of the trouble (*e.g.*, restoring two phases of a three-phase system restores two-thirds of the customers); and (f) when customers lose power as a result of the process of restoring power (such as from switching operations and fault isolation), the duration of these additional outages is included.

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- ?? The customers affected and customer minutes on the individual interruptions are summed for the reporting period - month, quarter, and year-to-date.

?? Reliability Index calculations are performed using the average customers served for the reporting period. These customer counts are updated monthly from the customer service system.

3. Lost Work Time Accident Rate

In order to calculate its Lost Work Time Accident (“LTA”) Rate, WMECO uses the definition which comes from the US Department of Labor - Bureau of Labor Statistics. The formula utilized data from the federally mandated OSHA 200 logs through 2001. On December 31, 2001, the OSHA 200 logs became obsolete and were replaced by OSHA 300 logs. Beginning in 2002, the data used to determine the LTA Rate is derived from the OSHA 300 logs.

The number of lost work time injuries and/or illnesses per 100 full-time workers is calculated as follows:

LTA Rate per year = $(N/EH) \times 200,000$ where:

N = number of injuries and/or illnesses

EH = total hours worked by all employees during the calendar year

200,000 = base number of hours for 100 full-time equivalent workers working 40 hours per week for a full year (i.e., 40 hours per week times 50 weeks per year).

B. Customer Service and Billing

1. Telephone Service Factor

Currently, WMECO answers telephone calls from two locations, WMECO’s Customer Service Call Center (the center is located in WMECO’s facility on Brush Hill Avenue in West Springfield, Massachusetts) and Northeast Utilities’ Credit and Collection Center (located in Berlin, Connecticut). WMECO’s telephone answering

performance is calculated by a Telephone Service Factor (“TSF”). The TSF is the percentage of telephone calls to WMECO’s Customer Service Centers that are answered in 20 seconds. Both Emergency and Non-Emergency calls are included in calculating the percentages reported. WMECO measures the TSF beginning at the point that the caller makes a service selection and ending at the point that the call is responded to by the service area selected by the caller. If the caller does not make a selection, the response time shall be measured from a point following the completion of the Company’s recorded menu options and ending at the point that a customer service representative responds to the call.

WMECO’s telephone system currently reports the number of calls that are handled within the 20-second reporting standard. The annual TSF will be calculated as a weighted average of the individual monthly TSF statistics using the following equation:

$$TSF = \frac{\sum_{Month=January}^{Month=December} TSF_{month} \times No. of Calls Received_{month}}{\sum_{Month=January}^{Month=December} No. of Calls Received_{month}}$$

WMECO has identified two types of calls that fit the definition of emergency calls consistent with its approved SQ Plan. First, there are calls from customers to one of WMECO’s published customer service numbers that require the customer to select an emergency category in order to receive expedited handling. Second, there are calls from Police and Fire Departments to a special, unpublished telephone number. WMECO defines the Average Speed of Answer for emergency calls as the time a customer waits while a customer service representative responds to the call. This time is measured beginning at the point that the caller makes a service selection and ending at the point that

the call is responded to by a customer service representative. If the caller is not required to make a selection (*e.g.*, Police and Fire Department calls), the response time shall be measured from the point the call is received by WMECO's telephone system and ending at the point that a customer service representative responds to the call.

WMECO's Rockwell Telephone System is the mechanism used to capture and store data relating to all customer calls that come into our Brush Hill Customer Service Center and Berlin Credit Center. Our Customer Service Call Center Technology Group extracts the data from the Rockwell system and generates various reports (daily, monthly, quarterly, etc.) regarding the following service quality measures:

- ?? Telephone Service Level (% of Calls Answered in 20 seconds) for our WMECO (Brush Hill) Call Center.
- ?? Combined Telephone Service Level (for the WMECO Call Center and Berlin Credit Center).
- ?? Average Speed of Answer of Police, Fire and Emergency Calls compared to the average speed of answer for "non-emergency" calls.

2. Service Appointments Met as Scheduled

Service Appointments Met is defined as scheduled appointments with Meter and Service Department or New Service Department representatives when the customer must be at the job site. An appointment will be considered met if the service call is completed on the day agreed upon by the customer and the Company. Excluded from this total will be any appointments that are broken by the customer.

Service appointments made by our New Service Department will include all appointments that require coordination between the Company and the customer to connect or disconnect the electrical service. It will also include appointments requested by the customer to disconnect service for tree removal/trimming activity or for safety reasons to accommodate construction work on their property.

WMECO implemented a new Field Activity Scheduling & Tracking ("FAST") system in December 2001 which our metering field forces use to process and complete service order requests from customers. WMECO also uses the FAST system to record and track meter-related Service Appointments. Service order request data for service appointments is tracked via the FAST system by comparing the "service request date" to the "service completion date" and reports are generated monthly listing the total number of service orders with appointments that were "kept" and/or "not kept" as scheduled. Each service order request on the report that was "not kept" as scheduled is reviewed to determine the circumstances why the appointment was missed. If it was a missed appointment where the customer needed to be present, the customer's account is noted and the customer receives a \$25.00 credit to their bill.

3. On-Cycle Meter Readings

WMECO defines On-Cycle Meter Reading as the percentage of meters that are actually read in a particular month compared to the number of meters that are scheduled to be read that month. The percentage is calculated by subtracting the number of meters estimated from the total number of meters scheduled to be read¹ as shown in the following equation:

$$\text{Percent of meters read} = \frac{\text{Number of meters scheduled to be read} - \text{Number of meters estimated}}{\text{Number of meters scheduled to be read}}$$

¹ Meter reading for WMECO's seasonal accounts are only counted in the months that seasonal service is being delivered.

The meter reading data is compiled monthly and aggregated for year-to-date results in a calendar year. Eligible meters include residential, commercial and industrial accounts.

WMECO reports On-Cycle Meter Reading data by tracking its monthly Unread Meter data that is collected from the Customer Service billing system. A monthly / year-to-date (“YTD”) Unread Meters report is generated which compares the total number of unread meters each month (*i.e.*, meters not read on schedule) to the total number of meters in our billing system (*i.e.*, total meters scheduled to be read each month). This results in an overall monthly and YTD Unread Meters percentage. The monthly and YTD On-Cycle Meter Reading percentage is arrived at by taking the reciprocal value of the Unread Meters percentage ($100\% - \text{Unread Meters \%} = \text{On-Cycle Meter Reading \%}$).

C. Consumer Division Statistics

1. Consumer Division Cases

Consumer Division Cases are defined as those in which a written record is opened by the Consumer Division using the following criteria: (1) the individual making the complaint provides his or her identity to the Consumer Division and is either a (a) current, prospective, or former customer of WMECO, or (b) designee of the current, prospective, or former customer of WMECO; (2) the individual and/or his designee has contacted WMECO prior to lodging a complaint with the Department; (3) the Department’s investigator cannot resolve the complaint without contacting WMECO to obtain more information; (4) the matter involves an issue or issues over which the Department typically exercises jurisdiction; and (5) the matter involves an issue or issues over which WMECO has control. The frequency is reported per 1,000 residential

customers. The Department's Consumer Division gathers and tracks this data and provides it to WMECO on a monthly basis.

2. Billing Adjustments

Billing Adjustments are defined as the dollar amount of residential billing adjustments per 1,000 residential customers. The Department's Consumer Division gathers and tracks this data and provides it to WMECO on a monthly basis.

III. Identification of Potential Nationwide, Regionwide, and Statewide Performance Data That Is Available for a Comprehensive Database

WMECO has been using benchmarking practices for a number of years. WMECO uses benchmarking to compare its performance to others in the pursuit of determining best practices that may be adapted or adopted to improve its performance. WMECO's participation has been with both private companies and trade groups. A general practice used as in these studies is that all participants must sign a confidentiality agreement in order to be part of the benchmarking study. This confidentiality agreement states that participants will not disclose any information from the study outside of the group. This restriction on the use of the information makes this information unsuitable for use in establishing a comprehensive database.

A characteristic of these types of studies is that the data submitted is often normalized or analyzed by the consultant for various reasons. This is often done to assimilate the data for comparison purposes. Since the normalization or analytical processes are often not disclosed and is proprietary to the group performing the process, the results of this type of benchmarking is also unsuitable for use in establishing a comprehensive database.

There is one other characteristic of these types of studies that make them unsuitable for use in establishing a comprehensive database. Participation varies. Generally, these studies are for a selected period of time. Parties pay a fee to participate. Some studies are one-time. Others are recurring. Participants may vary from study-to-study. This variation makes them unsuitable for use in establishing a comprehensive database.

For the purposes of preparing this report, WMECO joined the other Massachusetts electric and gas distribution companies² in retaining Navigant to identify the availability and nature of statewide, regional, or nationwide data that would correlate with the service quality measures established by the Department in D.T.E. 99-84 (“Navigant Report”). The Navigant Report is attached.

Navigant concluded that the differences in service quality definitions, data collection, system design and construction may affect the establishment of a benchmark. This is demonstrated in WMECO’s comparison of its SAIDI and SAIFI reliability results with those of its operating affiliates in Connecticut and New Hampshire. Due to the definitional differences between the states of Connecticut, Massachusetts and New Hampshire, most notably in the exclusion of storms, a direct comparison of WMECO’s SAIDI and SAIFI results with those of The Connecticut Light & Power Company and Public Service Company of New Hampshire is not possible. This lack of definitional and data collection uniformity makes any attempt at regional benchmarking very suspect.

² In addition to WMECO, the other Massachusetts electric and gas distribution companies which participated in the Navigant Report are Bay State Gas Company, The Berkshire Gas Company, Fitchburg Gas and Electric Light Company, KeySpan Energy Delivery New England, Massachusetts Electric Company, Nantucket Electric Company, New England Gas Company, NSTAR Electric, and NSTAR Gas Company.

IV. An Assessment of the Feasibility of Establishing a Co-operative Approach to Comparative Benchmarking

Due to the limits of benchmarking data that are currently available, WMECO does not believe that establishing a Massachusetts co-operative approach to comparative benchmarking has merit at this time. This conclusion is based on the lack of Massachusetts-only data to develop a statewide benchmarking system, WMECO's own benchmarking experience and the conclusion of the Navigant Report.